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SCULLY SCOTT MURPHY & PRESSER, PC
400 GARDEN CITY PLAZA
SUITE 300
GARDEN CITY, NY 11530

EXAMINER

HUANG, MEI QI

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/767,364

Applicant(s)

YEH ET AL.

Examiner

Mei Q. Huang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 12 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-19 and 21-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-24 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Claims 1-22 in the reply filed on November 18, 2004 is acknowledged. Upon reconsideration, the requirement for group election has been withdrawn.
2. Applicant's species election with traverse in the reply filed on March 25, 2005 is acknowledged. However the species election does not comply with the examiner's request filed on January 25, 2005.
3. During a telephone conversation with Attorney, Mr. Marvin Bressler, on April 8, 2005 a new provisional election of fluoro acrylate monomer as a component (c) for the polymer described in Claim 1 was made with traverse. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12 and 20 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Objections

4. Claim 3 is objected to because of the following informalities: The selective formats of various groups are improper in that it is not clear whether the individual members in the group are selected in alternatives only or in both alternatives and combinations. In general, when the members in a group are individually chosen as alternatives, the format, "selected from A, B, ..., or X" or "selected from the group

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consisting of A, B, ..., and X", should be used; and when the members in a group are chosen both in alternatives and combinations, the format "selected from the group consisting of A, B, ..., X, and mixtures thereof" should be used. See MPEP 2173.05 (h). Applicants are requested to amend the selective formats of the instant claims according to the above guidance.

5. Claim 24 is objected to because of the following informalities: Claim 24 recites the limitation "the method of claim 29". There are twenty-four (24) claims in total in the present application. The examiner herein believes that it is a typo. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 6-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 6 recites the limitation "the composition of claim 1 wherein" in line 1. There is insufficient antecedent basis for this limitation in the claim. It is suggested that the claim be amended to recite "the composition of claim 1 wherein said acrylate monomer has the following general formula".

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-3, 6-7, 10-11, 13-17 and 22-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Lear et al. (US Pat. 5,194,549).

The prior art to Lear et al. discloses coating compositions are polymerized from olefinically unsaturated monomers including ester of acrylic acid and methacrylic acid (column 5, line 8-10), which meets the instantly claimed component (a), tertiary octyl methacrylate (column 4, line 31-32), which meets the instantly claimed component (b), and fluorinated acrylates and methacrylates (column 5, line 28-29), which meets the instantly claimed component (c). Lear et al. also teach that the invented coating composition can alternatively be a solvent-based composition (column 2, line 47-49).

As to Claims 2-3, Lear et al. use xylene as a solvent in the working example (column 11, example 1).

As to Claims 6-7, Lear et al. teach the polymerizable monomers for the invented coating composition including esters of acrylic acid and methacrylic acid, such as methyl acrylate, n-butyl acrylate, methyl methacrylate, etc (column 4, line 66-68, and column 5, line 1-49).

As to Claims 10-11, Lear et al. teach the polymerizable monomers for the invented coating composition including fluorinated acrylates and methacrylates (column 5, line 29-30).

As to Claims 13-15, Lear et al. teach the polymerizable monomers for the invented coating composition including styrene and vinyl ethers (column 5, line 3-7).

As to Claims 16-17, Lear et al teach, in working example 3, column 11, that acrylate monomer is used in an amount of about 38 wt%, which is within the claimed range for acrylate monomer of 20-80 wt% required by Claim 16, and solvent is used in an amount of about 70 wt%, which overlaps with the claimed range for solvent of 20-70 wt% required by Claim 17.

As to Claims 22-24, Lear et al. teach the invention provides a film-forming coating composition for application to a polypropylene based substrate (column 1, line 65-67), which meets the instant claims 22, 23 and 24, the limitation of substrate, plastic material.

In sum, all the limitations of Claims 1-3, 6-7, 10-11, 13-17 and 22-24 are fully met by Lear et als' disclosure.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claims 4-5 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lear et al. (US Pat. 5,194,549) in view of Shunichi et al. (JP 06-345,823, translation, cited by applicant).

The discussion of the prior art to Lear'549 on Claims 1-2 is presented in paragraph 10 above and is incorporated herein by reference. Lear et al. teach that the invented coating composition can alternatively be a solvent-based composition (column 2, line 47-49) and use xylene as a solvent in the working example (column 11, example 1). Lear et al. are silent as to other solvent, e.g. ester and ketone as required by the instant claims 4-5. Lear et al. are also silent as to the amount of vinyl monomer used in the coating composition as required by Claim 21. However, the use of ester or ketone as a solvent in the field of making coating composition is well known in the art as taught by Shunichi et al. The prior art to Shunichi et al., which discloses a coating composition comprising a solvent and a fluoro-containing polymer, teaches the interchangeability of benzene, such as xylene, ester, such as ethyl acetate and butyl acetate, and ketone, such as methyl ethyl ketone (page 3, [0011]), as functionally equivalent organic solvent in a similar coating composition. Thus, it would have been obvious to one of ordinary

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skill in the art to replace xylene with ester or ketone as solvent, as taught by Shunichi et al. in Lear et als' coating composition based on their expected interchangeability as functionally equivalent organic solvent, motivated by a reasonable expectation of success. *In re O'Farrell*, 853 F.2d 894, 903, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

As to Claim 21, the amount of vinyl-based monomer used in the coating composition, Shunichi et al. teach use about 8 wt% of vinyl ether based on the total weight of the monomers in working example (page 4, [0024]), which is within the claimed range of 5-40 wt%. Accordingly, it would have been obvious to one of ordinary skill in the art to use the amount of vinyl-based monomer, as taught by Shunichi et al., in Lear et als' coating composition formulation because using such an amount of vinyl-based monomer is exemplified successfully in Shunichi et als' coating composition which is similar to the instantly claimed coating composition. One would expect such an amount of vinyl-based monomer would also work successfully in Lear et als' coating composition.

14. Claims 8-9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lear et al. (US Pat. 5,194,549) in view of Mayer et al. (6,309,707).

The discussion of the prior art to Lear'549 on Claims 1 is presented in paragraph 10 above and is incorporated herein by reference. The tertiary carboxylic ester used by Lear et al. is different from the those further defined by the dependent claims 8-9 and the amount of tertiary carboxylic ester used by Lear et al. is about 60 wt% which is higher than the claimed range for this monomer, 5-50 wt%. The prior art to Mayer et al.

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discloses a coating composition which is a copolymer comprising acrylate monomers (column 5, line 43,51), and glycidyl esters of highly branched monocarboxylic acids obtained under the trade name of "Cardura" (column 7, line 2-4) in an amount of 5-15 wt% (column 8, line 32-33 and column 6, line 66-67), which meets the instantly claimed tertiary carboxylic ester in Claims 8-9 and the amount required by Claim 18.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the tertiary carboxylic ester in Lear et als' coating formulation with Mayer et als' tertiary carboxylic ester and use it's amount, as taught by Mayer et al., motivated by a reasonable expectation of success because the use of this tertiary carboxylic ester with such amount is exemplified successfully with unexpected results, such as good weathering resistance, etc. (column 4, line 18-20), in Mayer et als' coating composition.

15. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lear et al. (US Pat. 5,194,549) in view of Nanishi et al. (US Pat. 5,032,641).

The discussion of the prior art to Lear'549 on Claims 1 is presented in paragraph 10 above and is incorporated herein by reference. Lear et al. do not disclose the amount of the fluoro acrylate monomer used in the coating composition. The prior art to Nanishi et al. discloses a water-repellent film-forming composition used for coating, which comprises a polymer selected from the group consisting of a (co)polymer composed a fluoroalkyl group-containing (meth)acrylic monomer (column 1, line 35-48), and an unsaturated monomer copolymerizable with the fluoroalkyl group-containing

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(meth)acrylic monomer (column 1, line 49-51), such as methyl acrylate, butyl acrylate, (column 3, line 17-28). The amount of the fluoroalkyl group-containing (meth)acrylic monomer used is 40 wt% (column 8, example 4), which overlaps with the claimed range of 1-40 wt% in Claim 19. Accordingly, it would have been obvious to one of ordinary skill in the art to use the amount of the fluoro acrylate monomer, as taught by Nanishi et al., in Lear et als' coating formulation, motivated by a reasonable expectation of success because using such an amount of fluoro acrylate monomer in a similar coating composition is exemplified successfully by Nanishi et al. One would expect such an amount of fluoro acrylate monomer would also work successfully in Lear et als' coating composition.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mei Q. Huang whose telephone number is (571) 272-3549. The examiner can normally be reached on 8am - 4pm, Mon. - Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mei Q. Huang
Examiner

April 8 , 2005

A handwritten signature in black ink, appearing to read "DW Wu", is positioned above the printed name.

DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700